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"Non-Profit" Salaries: Tax Data Reveal Big Bucks

Difficult and thankless work can be the lot of those who look after the interests of science and higher education in the political jungles of Washington. But does it pay? The answer is: Generally much better if you're working the issues from a "non-profit" post outside the federal government than from inside the salary-capped federal service.

But how much better? Precise, previously unpublished data are offered here by SGR, thanks to their eased availability under a little-noticed amendment to last year's tax legislation, the Omnibus Budget Reconciliation Act of 1987 (OBRA). The amendment, Section 10702 of OBRA, concerns organizations recognized as tax exempt under Section 501(c)(3) of the Internal Revenue Code, and public accessibility to their annual tax returns, IRS Form 990. Prior to passage of the amendment, the forms were supposed to be furnished to seekers by regional IRS Service Centers. But the Centers either ignored the requests for copies or took many months to fulfill them. Now the tax-exempt organizations themselves are required to make their

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Forms 990 promptly available for public inspection upon request, though in making the rounds, SGR was almost invariably told that so far, we were the only one to ask.

Much of the financial information on Form 990 is publicly available in the annual financial statements issued by the organizations, but not so one item—the salaries and benefits of senior officials. These are of great interest among federal officials, who find their own salaries held down by political grandstanding while funds from their agencies enrich better-paying non-profit organizations. So, here we go, with a rundown of salaries, drawn from the Forms 990, of some of the major non-profit outposts of science and higher education in the Capital.

Association of American Medical Colleges. With 127 medical schools as its core membership, the AAMC maintains a hawkeye watch on the National Institutes of Health, which pays most of the bills for research in its member schools. The top hired hand at the AAMC, President Robert Petersdorf, was paid a salary of $250,000, plus $25,000 in benefits, in the fiscal year that ended July 30, 1988. That's said to be routine pay for a senior MD and former medical school dean (UC San Diego). It does contrast sharply with the salary of the Director of the $7-billion-a-year NIH, James B. Wyngaarden: $88,879.12, which, apart from special supplements for physicians and a few scarce specialists, is about the maximum in the federal service.

The growth rate in presidential pay at the AAMC has at least kept up with inflation. Petersdorf drew $208,333, plus 10 percent in benefits, in the AAMC's fiscal 1987, his first year in the AAMC job. His predecessor, John Cooper, was paid $185,117 in 1986, his final year there, plus benefits of 10 percent, the standard for all salaries listed by the AAMC. Number two at the AAMC is a former NIH official, Executive Vice President John Sherman. His salary last year was $162,000, plus benefits. Other AAMC salaries, all plus benefits.

- Richard Knapp, Senior Vice President: $120,000.
- August G. Swanson, Vice President: $115,000.

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In Brief

Two straight years of Congressional limits on budget increases have essentially wrecked White House plans for doubling the NSF budget between 1988 and 1992, according to an analysis by the Science Policy Research Division of the Congressional Research Service, part of the Library of Congress. With the increase for the current fiscal year only half of what was requested, the prospects for catching up in the coming years of deficit containment are very dim. The current NSF budget is $1.85 billion, which is 10 percent above last year's figure.

It's been a bad year for advertising in the two major publications left in the once-booming field of science magazines for the general public. Scientific American *is down by 11.29 percent compared with last year;* Discover, *which Time Inc. sold to Family Media two years ago because of slumping ads, is down by 19 percent.*

Ernest Ambler, head of the National Institute of Standards and Technology (NIST, formerly the National Bureau of Standards), has been named Acting Under Secretary for Technology in the Department of Commerce, parent agency of NIST. The Commerce post was created in October by Congressionally initiated legislation that rechristened NBS and assigned new industrial responsibilities to NIST. Appointed as Acting Director of NIST is Raymond G. Kammer, Deputy Director under Ambler.

. . . National Academy Throws in a Chauffeured Car

(Continued from page 1)

- James Bentley, Vice President: $108,000.
- Joseph Keyes, Vice President: $106,000.
- Thomas Kennedy, Associate Vice President: $90,000.

AAMC revenues totaled $14.4 million in 1987, with $3.6 million of that coming from membership fees and most of the balance from various services, including administration of medical school admissions tests.

National Academy of Sciences. The NAS, chartered by Congress as an adviser to the federal government, is nominally a private organization, but the bulk of its income comes from work for federal agencies. Granted an extension for filing its 1987 return, the NAS's most recently filed Form 990 is for the fiscal year ending June 30, 1987. It reports $93.9 million in government grants and contracts, and $29.1 million in other funds, mostly endowment-building or special-project funds from major foundations and corporations.

For the President of the NAS, Frank Press, a salary of $189,969, plus $29,612 in benefits, was reported. In addition, the return also reports a presidential chauffeur-driven car, "primarily for business purposes." A note states that "included in the compensation is the value of his personal use of the automobile." No reference is made in the NAS return to an apartment at the Watergate that the Academy provides for its President. An NAS spokeswoman told SGR that Press pays for "personal use" of the apartment.

The Academy's Form 990 reports the following salaries for the other senior officials of the organization:

- Robert M. White, President of the National Academy of Engineering: $193,366, plus $15,406 in benefits.
- Samuel Thier, President of the Institute of Medicine: $167,764, plus $21,021 in benefits.
- Philip Smith, Executive Officer: $103,385, plus $12,387 in benefits.
- David Williams, Comptroller: $92,068, plus $13,873 in benefits.
- James Wright, Counsel, $89,615, plus $10,441 in benefits.

American Chemical Society. Of all the organizations that SGR visited to inspect their Forms 990, the ACS displayed the strongest spirit of *glasnost,* though all other organizations responded promptly and cooperatively to our request for a look. At the ACS, the form was available from the receptionist inside the street-level entrance of the ACS headquarters building in downtown Washington, whereas the other organizations required an appointment, usually with someone deep in the bookkeeping department.

The ACS return for 1987 lists a salary of $160,400 for Executive Director John A. Krum, plus $8501 for pension and $13,196 in benefits. For ACS Secretary Rodney Hader, the salary was $119,423, plus $6329 for pension and $9825 for benefits.

The ACS return reflects the organization's role as a publishing powerhouse (*Chemical Abstracts* and numerous other publications and services for the chemical industry and profession.) Publication sales brought in $132.3 million in 1987, while membership fees produced $7.9 million, and various other activities produced income for a grand ACS total of $173 million.

American Association for the Advancement of Science. As publisher of *Science* and impresario of an annual, well-publicized general scientific pow-wow, the AAAS is easily the best-known scientific society in the nation, but its revenues fall far below those of the ACS, and the salaries of its top brass are comparatively modest, though above the top federal levels. In 1987, AAAS revenues totaled $31.7 million, about 90 percent of it from membership dues and advertising in *Science.* The salaries reported on the 1987 return were as follows:

- Alvin Trivelpiece, Executive Officer (leaving January 1 to become Director of the Oak Ridge National Laboratory): $96,026, plus $11,166 in benefits.
- J. Thomas Ratchford, Deputy Executive Officer: $95,000, plus $20,666 in benefits.
- Daniel E. Koshland Jr., Editor of *Science:* $92,000, plus $18,010 in benefits. In June 1984, when the AAAS announced Koshland's appointment to the editorship, a AAAS press release stated that he "would devote half of his time to *Science* magazine and half to research" at the University of California, Berkeley, where he is a professor of biochemistry. Koshland currently spends a week or two a month at the *Science* offices in Washington. The AAAS Form 990 lists him as employed at "40 hours" per week as editor.
- James Rutherford, Education Officer: $90,500, plus $20,126 in benefits.

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Congress's Pay Sets Ceiling for Federal Salaries

The political dilemma in federal pay scales is that $89,500, the salary for Members of Congress and most senior federal executives, looks very grand to most American wage earners—and therefore pleas for more easily arouse wrath and ridicule and timidity on voting for higher federal pay.

The consequences have been especially grim at the National Institutes of Health, which has been priced out of the market not only for superstars but also for middle-rank researchers. Though physicians at NIH are eligible for a $20,000 a year supplement, NIH has seen a continuing procession of senior staff going off to universities and pharmaceutical firms.

The departees generally express deep affection for NIH, but often cite college tuition bills as making the move unavoidable. The recruitment of staff is hindered not only by federal pay limits but also by the high cost of housing in the Washington area. It's said around the NIH campus that at least double their government pay is common for those moving away. For example, the former Director of the National Cancer Institute, Vincent DeVita, moved to Memorial Sloan-Kettering this year at a salary that's said to be around $400,000. The great financial irony of biomedical research is that many of the institutions raiding NIH's talented staff are heavily financed by NIH grants.

Since it's Congress's own pay level that sets the ceiling for most of the federal establishment, the politics of pay is focused on Capitol Hill's cautious dealings with the inflammable issue of government salaries. Congress has tried to deflect accusations of self-serving greed by assigning recommendations for federal salary levels to a quadrennial Commission on Executive, Legislative and Judicial Salaries—a nine-member body jointly appointed by the President and Congressional leaders.

The Commission's advice goes to the President, who then sends his recommendations to Congress, which has adopted a system that spares its Members the political embarrassment of going on record in favor of a pay raise for themselves: A joint resolution of Congress can disapprove a pay raise, but if no Congressional action is taken within 30 days, the raise goes through. Two years ago, Congress played it both ways by letting 31 days go by before voting down a small pay increase. When the increase went

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Pay *(Continued from page 2)*

• Arthur Herschman, Publications Officer, $74,880, plus $14,586 in benefits.

• William Engelman, Administrative Officer, $71,750, plus $13,960 in benefits.

Association of American Universities. A boutique operation that serves as the Washington voice for big research universities, the 56-member AAU has achieved considerable visibility since Robert M. Rosenzweig, a political scientist and administrator, moved from Stanford University to become AAU President in 1983. Candidly sermonizing on some of the major sci/tech issues of the day, Rosenzweig has emerged as something of a statesmen of science policy—in an admittedly sparse field (see page 6). The AAU runs on a shoestring—with total revenues of $1.5 million, mainly from membership fees, in the fiscal year that ended September 30, 1987. For that year, Rosenzweig's salary was reported at $124,000, plus $23,445 in benefits. Also listed is a "president's residence" that he occupies in Washington; the residence and various household items and automobiles are valued on the return at $675,846. For AAU Vice President John C. Crowley, salary is listed at $88,750, plus $13,277 in benefits.

The American Council on Education. With some 1450 colleges and universities as members, the ACE is the mass organization of higher education. For 1987, it reported revenues of $13.2 million, mainly from membership fees and sales of publications. Salaries were reported as follows:

• Robert H. Atwell, President: $115,000, plus $31,092 in benefits.

• Charles Saunders, Vice President for Government Relations: $83,940, plus $22,597 in benefits.

• Sheldon Steinbach, Vice President-General Counsel: $80,510, plus $21,673 in benefits.

• Henry Spille, Vice President-Director, Center for Adult Learning: $73,710, plus $19,843 in benefits.

• Douglas Whitney, Assistant Director, Center for Adult Learning: $71,999, plus $19,382 in benefits.

National Association of State Universities and Land Grant Colleges. Representing 149 colleges and universities, this association reported membership dues of $2 million in 1987 and income of $260,000 from various services it provides. Salaries:

• Robert Clodius, President/Treasurer: $110,000, plus $16,500 in benefits.

• Jerald Roschwald, Director of Government Relations: $82,500, plus $12,375 in benefits.

• Dale Stonebury, Director-Agriculture: $67,000, plus $10,050 benefits.

• James Cowan, Director, Office of International Programs: $65,600, plus $9850 in benefits.—DSG

Panicked About Misconduct, Harvard Bashes a Professor

From indifference to harsh and panicky over-reaction—that's the course that the scientific leadership has taken on the festering issue of scientific misconduct. And the first casualty is an elderly, distinguished Harvard professor, pinioned on the front page of the *New York Times* and elsewhere after Harvard piously proclaimed him guilty of four acts of plagiarism committed between 1966 and 1976. Rigorous application of this purity standard could threaten Cambridge with a depopulation that would stun the 1990 census.

Confronted by the plagiarism charges, the spotlighted culprit, Shervert H. Frazier, resigned from a professorship in psychiatry at the medical school and as head of the Harvard-affiliated McLean Hospital.

A former director of the National Institute of Mental Health, the leading federal agency in the field, Frazier, at age 67, was close to retirement. The borrowed writings didn't affect patient care or the quality of the scientific literature. In similar circumstances in past years, violators of scholarly propriety were tolerated or were permitted to go quietly. For example, in an episode that occurred twenty years ago, an accused plagiarizer of high professional standing in biomedical research acknowledged the use of uncredited writings by others, but implausibly attributed the matter to his misreading of hurriedly taken notes. Nonetheless, he went on to head a major federal research agency and then a major university. But Frazier's disgrace was announced by Harvard and echoed on leading front pages. Why?

The answer is that after long being complacently perceived as a trivial, perhaps even non-existent problem, academic sinning has been raised to public attention by several grimy cases of fraud and deceit. The issue is not a major one in Congress, but it has attracted the interest of two legislative bulldogs, Rep. John Dingell (D-Mich.) and Rep. Ted Weiss (D-NY). Both are well situated to badger academe and its federal patrons, and inclined to do so, as was evidenced in tumultuous hearings they held last spring (SGR, April 15). Their starting point is skepticism toward the establishment's assurances that scientific misdeeds are rare aberrations that get caught in the ordinary checks and balances of scientific research.

The treatment of misconduct is an especially sensitive matter for Harvard, whose devotion to purity has been revealed on some occasions as short of steadfast. The most celebrated episode occurred in 1981, when a youthful high achiever in medical research, John Darsee, was discovered to have fabricated data on numerous research papers in cardiology, including many co-authored by senior luminaries of the Harvard medical establishment. Investigations sponsored by Harvard dismissed the matter as a solo case of misguided ambition, and Darsee silently scurried off. But an investigation commissioned by the National Institutes of Health, which had financed Darsee's research, concluded that the Harvard environment pushed fiercely for productivity in the laboratory, while providing little or no supervision. On Capitol Hill and in academic circles, the case has gone into memory as a brazen whitewash attempt that nearly succeeded.

The great misfortune of the resigned Dr. Frazier may be that his long-ago transgressions—detected last July by a graduate student at the University of Rochester—were being pondered by Harvard's front office at the same time that the *Boston Globe* was trumpeting another case of misconduct at Harvard. The sequence of events may be coincidental, but it is striking.

Following an investigation at Harvard, Frazier's resignation was announced on November 28. While that investigation was in progress, Harvard was grappling with the *Globe* revelations, published on October 19, concerning the activities of Dr. Scheffer C.G. Tseng, formerly of the Harvard-affiliated Massachusetts Eye and Ear Infirmary, and a colleague still there, his one-time supervisor, Associate Professor Kenneth R. Kenyon. Tseng moved to the University of Miami two years ago.

According to the *Globe*, while Tseng was at Harvard, he made highly inflated claims about results from tests of a drug for dry-eye conditions, and then expanded the tests to a series of patients without the permission of the

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Federal Salaries

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into effect, several Members, fearing the political consequences, declined to accept it.

The Commission is expected to release its recommendations any day now, and according to published reports, it will call for salaries of $135,000 for Congress and 2500 senior federals. There would also be raises for the few federal officials currently above the $89,500 ceiling, including the President, who now receives $200,000 a year, and Cabinet officers, who get $99,500.

But for NIH and other federal agencies with hotly sought-after scientific and engineering talent, not even $135,000 a year can compete with non-government organizations. That and other issues of maintaining quality in government service are expected to be addressed next week in a report on NIH by an Institute of Medicine Committee chaired by Harold Shapiro, President of Princeton University.

. . . NIH Cancels Grants and Ousts Fellowship Director

(Continued from page 4)

infirmary's Human Studies Committee. His work was supported by NIH grants totaling almost $650,000. Amid highly favorable publicity about the unwarranted claims for the research, Tseng's drug became the centerpiece of Spectra Pharmaceutical Services, a company organized by one of his former teachers, A. Edward Maumenee, Professor emeritus at Johns Hopkins. Tseng is said to have come out of the deal with at least $1 million.

Following publication of the *Globe's* account, Harvard was queried about the case by staff members from the Oversight and Investigations Subcommittee of the House Energy and Commerce Committee. Both are chaired by Rep. John Dingell, who has come to regard NIH as a bank without locks that serves an insulated cabal of federal managers and their friends in academe. Assisting in the Harvard inquiry was the indefatigable Walter Stewart, a bloodhound of scientific misconduct, on loan to Dingell from NIH.

Meeting with Two Universities

With Dingell on the case, NIH promptly huddled with the University of Miami and Harvard. The outcome was a decision to terminate the last two years of an $850,000 grant to Tseng, at Miami, and suspend a $191,000 continuation of a grant held by Kenyon, his former supervisor at the Massachusetts clinic. Kenyon's grant renewal had been approved and was due to take effect January 1. In addition, NIH requested Kenyon's removal as director of an NIH-financed fellowship program.

The swift and damaging actions against the two researchers are not only out of character for NIH, but, given that the investigations are incomplete and neither researcher has been formally accused of anything let alone found guilty, Bethesda seems to be operating in the great tradition of sentence first and trial later. In response to an inquiry from SGR, John A. McLaughlin, Associate Director for Extramural and Collaborative Programs at the NIH National Eye Institute, said the University of Miami "requested" the termination of Tseng's grant, and NIH merely responded to the request.

McLaughlin added, however, that the request followed discussions in which NIH outlined various options for the university. Regarding the continuation grant for Kenyon, McLaughlin said it was "on hold." Kenyon's replacement as Director of the fellowship program was "requested" by NIH, rather than, as the Associated Press reported, "demanded," according to McLaughlin.

Asked about the rationale for the actions against Tseng and Kenyon, McLaughlin said, "We are not presuming guilt or innocence. We are obligated to protect the taxpayers' money, and we've taken these steps pending the outcome of the investigations."

NIH's new-found vigor in handling these matters is better understood by recalling that when the clock ran out on the last Congress, several members influential in federal support of science were drafting legislation aimed at cracking down hard on fraudulent use of federal research grants (SGR, November 1). Their bill called for establishing a special enforcement arm in the office of the Inspector General of the Department of Health and Human Services. The move generated a horrified reaction in scientific circles, where the fraud issue is regarded as overblown by alarmists and easily misunderstood by outsiders. The Congressmen say they'll introduce the legislation shortly after they reconvene next month.

The misfortune of Harvard's Dr. Frazier was that his derelictions were revealed at a time when the issue of scientific fraud has become politically volatile. It is a safe assumption that in quieter times, the episode would have remained a little secret within the Harvard family.—DSG

AAAS Hides Election Count

The year end finds the spirit of *glasnost* in feeble shape at the American Association for the Advancement of Science, which yields to none in praising the sanctity of free circulation of scientific information.

An AAAS press release, dated November 28, announces the election of Donald N. Langenberg, Chancellor of the University of Illinois, Chicago, as President-elect of the AAAS. It does not mention the other candidate in the election, H. Guyford Stever, a former Director of NSF and White House Science Adviser in the Ford Administration. Nor does it state the vote for each candidate, which SGR understands was extremely close.

A request to the AAAS for the election returns brought the response that "an executive office decision was made not to release the vote." Why? No reply.

One likely source of embarrassment about the election is the extremely small turnout that determines office holding at the AAAS, as at most other professional societies, where it's the fulltime staff that really runs things. Of the 133,000 AAAS members, only 15-20 percent bother to vote.

University Association President Scolds the Flock

From an address by Robert M. Rosenzweig, President of the Association of American Universities, to the 28th annual meeting of the AAU, November 30, in Colorado Springs.

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Unfortunately, there seems to have grown up [in the academic community] a sense that these last 40 years, unparalleled in our history for the lavishness with which universities have been supported by all of their patrons, are the norm rather than the exception. It has become hard for us to believe that other social institutions could have claims on patronage that, if not intrinsically more worthy, are at least more pressing. As a consequence, we not only resist, but we resent suggestions that we may need to discipline ourselves so that other needs may also be met. The recent discussions of the subject of research priorities [in Washington science-policy circles] is the first indication I have seen that there is an interest in building at least a vocabulary of self-discipline and a set of categories for considering the subject. . . .

We Think We're Special

There is yet a second consequence of 40 years of prosperity. The best way to describe it is that we may have developed a sense that we occupy a special, even a privileged, status in which even wholly legitimate concerns about some aspect of our conduct are viewed as a violation of immunity. Universities and their faculties did not originate, nor did they welcome, rules and procedures for protecting human subjects.

They resisted making accommodations to the needs of the handicapped, and they have hardly been among the leaders in dealing with toxic wastes and related safety and environmental matters. Individual institutions have been surprised by allegations of research misconduct well beyond the time when naivete is an acceptable excuse for mishandling these matters.

In all of those matters, universities came to do the right thing, but only after first insisting that their special status should immunize them from obligations for responsible behavior that apply elsewhere. As the recent hostile Congressional hearings on fraud and misconduct demonstrate, patience with that sequence is wearing thin.

Perhaps this sense of entitlement is just a special case of the quite understandable human tendency to conclude that good fortune has come our way because we deserve it, and, therefore, we need not probe the reasons why we have thus been blessed. I have heard faculty on occasion talk about the wherewithal that enables them to do their work the way doctors talk about hospitals and the owners of professional sports franchises talk about new stadiums: Those things exist, or should be made to exist, because they are part of the natural order of things, bestowed on those whose special virtue is that they do good works for the community.

Whatever its source, it seems to me an unproductive way to view the world. My sense is that, increasingly, success in the competition for patronage will depend on the ability to explain what social benefits are likely to derive from the investment sought . . . .

There is no doubt in my mind that the most serious loss that American universities could suffer would be the loss of confidence of their public and their patrons in their essentially public-spirited character. It is not a public sin in the United States to want money. However, it is a very different matter to be seen as wanting nothing but money, or even worse, to be indifferent to those who would cheat in order to gain money.

I think it is a concern that we fail to put our house in order on these matters that propels much of the public interest in the connection between universities and industry and that accounts for virtually all of the adverse comments on the subject. What is most disturbing about popular writing on the subject is that it seems to have turned from a focus on what universities are doing for money to the very different question, Is there anything universities won't do for money?

We have been pressed with that question in the debates over the unrelated business income tax [on commercial activities conducted by non-profit organizations], and we may well hear it in even more strident terms as the press and the Congress become aware of our newest patrons, Japanese and other foreign industry. There is nothing improper about accepting gifts from abroad, but in the somewhat protectionist atmosphere that now prevails, we had better have the reasons why it is right.

The full text of Rosenzweig's address, Keynote to the 28th annual meeting, is available from: Association of American Universities, One Dupont Circle NW, Washington, DC 20036; tel. 202/466-5030.

NSF Creates Facilities Office

With a Congressional authorization to pay for building and renovating university research facilities, but so far no money appropriated to do it, the National Science Foundation has taken a hopeful first step: Establishment of a Research Facilities Office, which will report to NSF Director Erich Bloch.

The Office will be headed by Richard J. Green, currently NSF Assistant Director for the Science, Technology, and International Affairs Directorate.

In Print: Space Studies, Social Science, Defense, Etc.

The publications listed are obtainable as indicated—not from SGR.

Strategy for Earth Explorers in Global Earth Sciences (55 pp., no charge), report from the Committee on Earth Sciences of the Space Science Board, National Academy of Sciences, chronicles yet another perversion of priorities in science and technology: NASA's fascination with far-away planetary studies and simultaneous neglect of earth studies, including those related to global change. The Committee, chaired by Byron Tapley, University of Texas, notes that "with the exception of research in solar-terrestrial processes, access to the Explorer program enjoyed by the earth science community during the first two decades of the space age was lost by the early 1980s. Moreover, the ability to conduct small and moderate-size missions outside that program has been severely circumscribed as a greater proportion of NASA's earth science budget has been allocated to larger and more complex missions." Recommendation: funding for two small missions per year of under $30 million each or one every three years in the $150 million range.

Order from: NAS, Space Science Board, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 202/334-3477.

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CBASE Newsletter (12 pp., no charge), published now and then (about twice a year) by the Commission on Behavioral and Social Sciences and Education, National Academy of Sciences, reports on the numerous activities planned or in progress in this section of the Academy complex. Among the items in the latest issue are the agenda of the recently established National Forum on the Future of Children and their Families, plans for a review for NSF of techniques for collecting statistical data on scientific and engineering manpower, and development of guidelines for use of contact lenses by military personnel. Recent publications are also listed.

Order from: NAS, Commission on Behavioral and Social Sciences and Education, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 202/334-2300.

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The Defense Industrial and Technology Base (60 pp., plus appendixes, no charge), final report of a 1988 summer study by the Defense Science Board, the Pentagon's senior science-advisory body, calls for giving DOD a major role in national policymaking for high-tech industry, research, and education to counter what it describes as a declining industrial capacity to serve defense needs. The report, prepared by a task force chaired by Robert A. Fuhrman, President of Lockheed Corp., adds up to a formula for economic stultification by the federal agency that produced the B1 and other goldplated fiascos. Regarding "improvement of the quality of the nation's educational system," the report states, "For this issue to be resolved . . . DOD will have to devote a substantial amount of resources and enlist the assistance of many others in the government." On a major part for the Pentagon in industrial policy, the report states, "This role is not one usually assigned to DOD; but DOD cannot meet its mission without a strong commercial base and it should recognize and accept this broader responsibility." The report also recommends a Presidential order establishing an Industrial Policy Committee, chaired by the National Security Adviser, to serve as the supreme council on industrial and economic policy, including "policies throughout the government that foster industrial innovation, modernization, and productivity."

Order from: Office of Assistant Secretary of Defense (PA), Room 2E-777, Pentagon, Washington, DC 20301-1400; tel. 202/697-5737.

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RAND Workshop on Antiproton Science and Technology (RAND/N-2763-AF; 27 pp., $4), an annotated summary from a workshop in October 1987 conducted by RAND for the Air Force, says antiproton research is rapidly on the way to major advances in fundamental understanding and practical applications in space propulsion, cancer treatment, materials research, and other fields. The workshop recommended a 10-year research program, costing a total of $400 million, part of which would be for "modest additions" to accelerators at the Fermilab or at Brookhaven to produce antiprotons for research.

Order the summary from: RAND, Publication Dept., 1700 Main St., Santa Monica, Calif. 90406-2138; tel. 213/393-0411

The full *Proceedings of the RAND Workshop on Antiproton Science and Technology* (759 pp., $88) was published last June and is available from: World Scientific Publishing Co., 687 Hartwell St., Teaneck, NJ 07666; tel. 201/837-8858.

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Misconduct Threatens Public Support, NSF Board Warns

Most scientists and research administrators probably regard the current public froth about scientific fraud and misconduct as a sham issue contrived by failed scientists and anything-for-a-story journalists. Nonetheless, Congress has been aroused by reports of scientific misdeeds, and this in turn has evoked a strong warning to science and academe from a group deep within the science establishment, the 24-member National Science Board (NSB), which functions as the board of directors of the National Science Foundation. On December 2, the NSB addressed the misconduct issue by approving a report prepared by its Committee on Openness of Scientific Communication. Following are excerpts from the section of the report titled "A Responsible Scientific Community."*

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Documented instances of scientific misconduct are relatively rare compared to the size of the scientific enterprise, although some cases of fraud and misconduct are no doubt resolved privately. Nonetheless, recently reported cases raise serious questions about the scientific community's ability to enforce high professional and ethical standards. The community assumes that unethical behavior is an anomaly and that the system is inherently self-correcting. The self-correcting mechanisms may not be strong enough in the face of private incentives and opportunities provided in a highly competitive research system.

Misconduct by university researchers can assume many different forms. In addition to fabrication and falsification, misconduct includes plagiarism, denying or unduly delaying access to scientific data, samples and experimental software and hardware, unwarranted co-authorship, indefinitely withholding publication for reasons of personal or commercial advantage, and ignoring wrongdoing by colleagues. Not in the class of misconduct, but costly to the scientific enterprise, is the habit of running up numbers of publications by fragmenting findings and of rushing to publish every finding, in some journal, whether significant or not.

A principal reason for unethical or improper behavior is the system of incentives and rewards created by the intensely competitive nature of scientific research. The need for prestige, professional advancement and research funding can induce some researchers to misrepresent or manipulate their work for their own advantage. The benefits of a competitive research system seem clear and need to be retained. But universities have latitude to adjust incentives and rewards and some universities now base tenure and promotion decisions more on the quality of a scientist's best work rather than on the total number of publications. For example, Harvard University now only considers ten publications in its promotion and tenure decisions to the full professor level.

Some federal agencies, including the National Science Foundation and the National Institutes of Health, require universities to have systems in place for addressing misconduct fairly and effectively and provide for agency intervention in cases which cannot be resolved on the institutional level.

We believe that scientific misconduct represents a serious potential threat to the integrity of science. In the current era of public accountability, even the perception that professional standards of scientific conduct are eroding is unacceptable and must be addressed directly and openly.

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*Chairman: John C. Hancock, former Executive Vice President for Corporate Development and Technology, United Telecommunications. Members: Annelise G. Anderson, Senior Research Fellow, Hoover Institution; Warren J. Baker, President, California Polytechnic University, San Luis Obispo; Frederick P. Brooks Jr., Professor of Computer Science, University of North Carolina; Albert F. Cotton, Professor of Chemistry, Texas A&M; Howard Schneiderman, Senior Vice President for Research and Development, and Chief Scientist, Monsanto Co.

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